

## ABSTRACT

An electronically controlled gas burner system and method using a micro-electro-mechanical (MEMS) valve. The system includes at least one gas burner and MEMS valves comprising an array of microvalves in fluid communication with the gas burner. The system also includes a microvalve controller for controlling the opening of each of the microvalves in the MEMS valve. The MEMS valve may be positioned remote from, or within, the gas burner. A method for controlling microvalves in a MEMS valve for firing a gas burner may include issuing a command for a desired gas flow and controlling an opening of at least some of the microvalves in the array to provide the desired gas flow corresponding to the command.